



Office of the
Secretary of Defense

Advanced Systems & Concepts

ACTD Technology & Transition Management DAU Class

Overview and ACTD/JCTD

Project Roles

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ACTD Office Organization

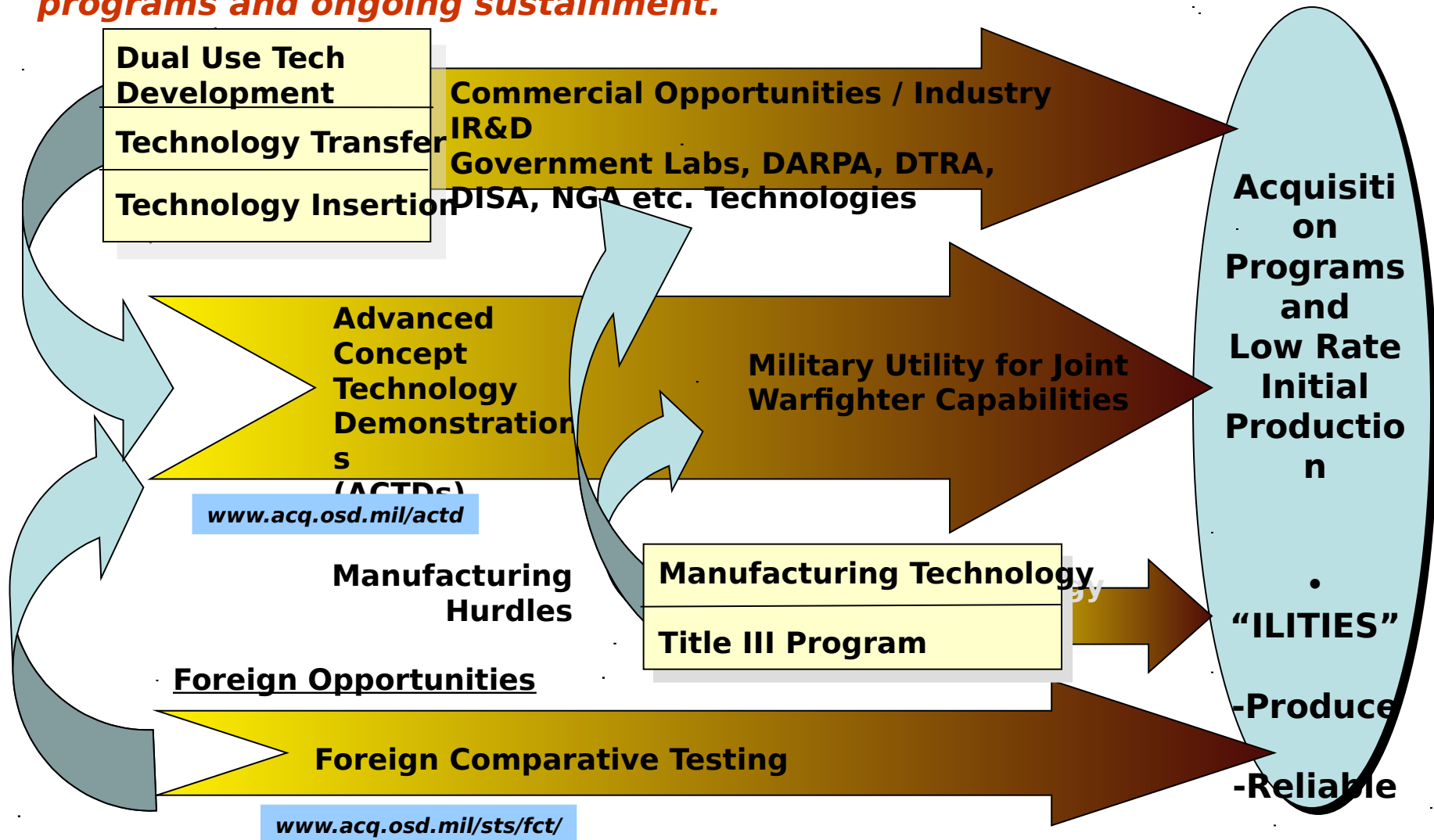
- ***Civil Service, IPAs, support contractors***
- ***Management***
- ***Support staff***
- ***Functional capability area leads (BA, FA, NC, CC, FP, FL, JT, FM)***
- ***Liaisons (Services, Combatant Commands, Joint Staff, Nations)***
- ***Oversight executives***

History

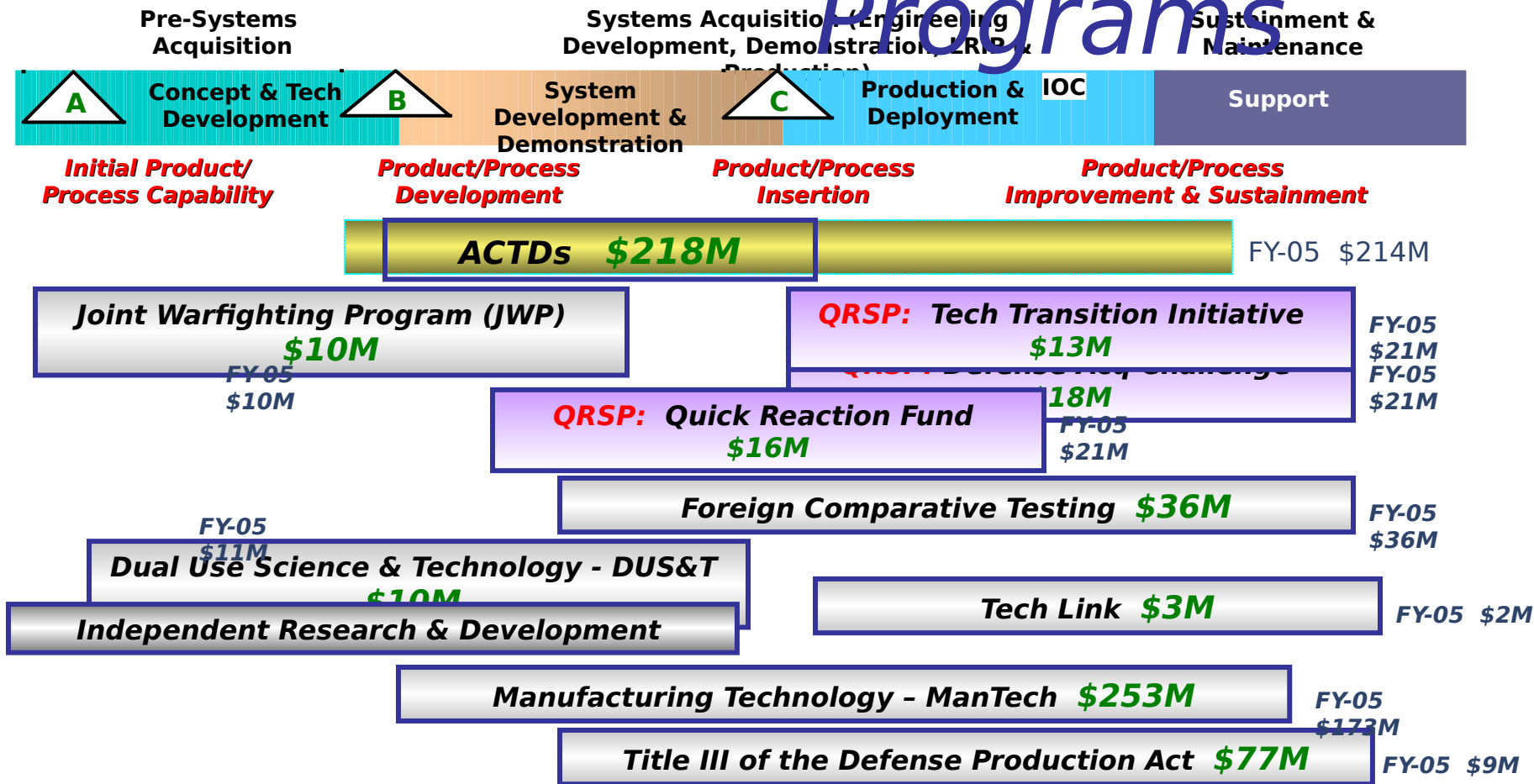
- ***Founded 1994***
- ***No directive/instruction/manual or policy letter***
- ***Guidance old and being re-written for new process***
- ***Started with 2 or 3 per year and slowly grew to approx. 15 per year.***
- ***Approx. 80 active***
- ***Oversight: GAO, OMB, IG, Congress***
 - Tech maturity
 - Transition
- ***Early Successes (global hawk and predator)***
- ***Appropriation***
 - Pre-brief staffers on final candidate list
 - Lately \$220 for on-going and new starts
 - Thanksgiving in and January out
- ***Joint Capability Technology Demonstrations***

Technology Transition Tools - DUSD (Advanced Systems & Con

Technology transition programs can work in harmony or independently but they all share a common goal - to accelerate the best technologies available to the warfighter into residual capabilities, acquisition programs and ongoing sustainment.

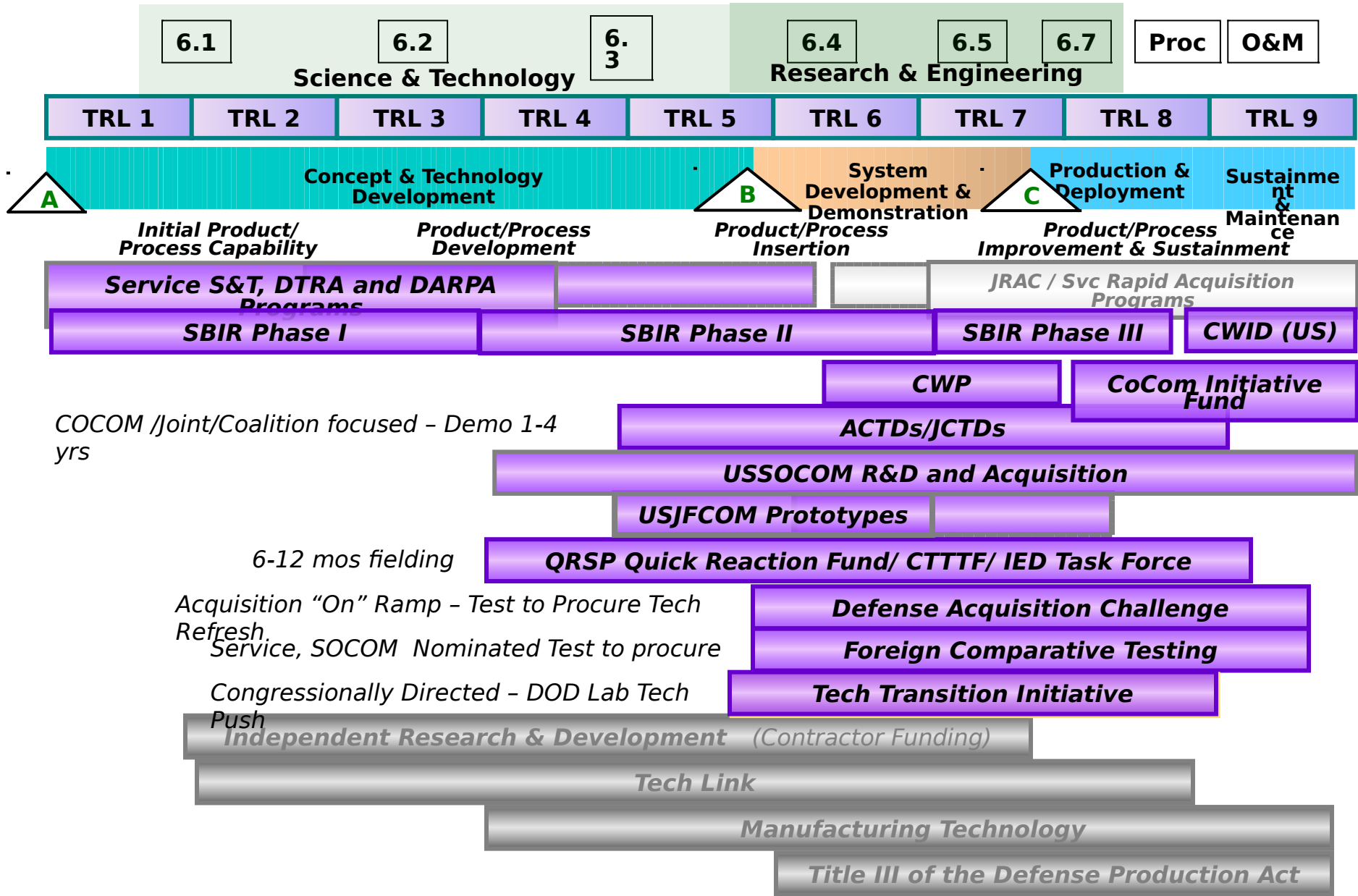


Technology Transition Programs



All programs aim to place priority on investing in GWOT solutions identified by the Counter Terrorism Technology Task Force (CTTTF)

Agile Acquisition Processes



Advanced Technology Demonstration (ATD) & Advanced Concept Technology Demonstration (ACTD)

ATD Advanced Technology Demonstration	ACTD Advanced Concept Technology Demonstration
• Evaluate technical performance.	• Evaluate military utility
Objectives • Demonstrate technical feasibility and maturity • Reduce technical risks and uncertainty at the relatively low cost of informal processes	Objectives • Gain understanding of and evaluate military utility before committing to acquisition • Develop corresponding concepts of operations and doctrine • Rapidly provide operational capability fieldable prototypes (residual)

ACTD Criteria

- Provides a potentially effective response to a priority joint/coalition military requirement
- The timeframe for completing the evaluation of military utility is typically 18 months
- The technology should be sufficiently mature.
- A lead service/agency has been identified
- The risks have been identified, are understood and accepted
- Demonstrations or exercises have been identified that will provide an adequate basis for the utility assessment
- Does not duplicate an existing program
- Funding is sufficient to complete the planned assessment of utility and provide technical support for the first two years of fielding of the interim capability
- Developer is ready to prepare a plan that covers all essential aspects
- Change the way we think and fight with:

Affordability	Interoperability	Sustainability
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ACTD Anatomy

- **Addresses an important military need with a *mature technology***
- **Provides a technical solution with demonstrated CONOPS**
- **Evaluates solution in field demonstrations by warfighters**
- **Usually *joint*, often combined/coalition**
- **Multi-agency**
 - **Developer Service /Agency: Technical Manager**
 - **Sponsoring Combatant command: Operational Manager**
 - **Lead Service/Agency (Title 10 Authority): Transition Manager**
- ***Rapid*: 1-5 Years - or less - to Final Demonstration**
 - **2 Years of Support for Residuals and Transition**
- **Multiple Funding Sources**
 - **OSD routinely provides 10-30% funding**

ACTD Objectives

Formal Success Objectives

- ***Transition*** to Service-sponsored Program of Record
- ***Satisfy operational requirement with residuals***
- ***Confirm technology appropriate/inappropriate for military use***

Informal Success Objectives

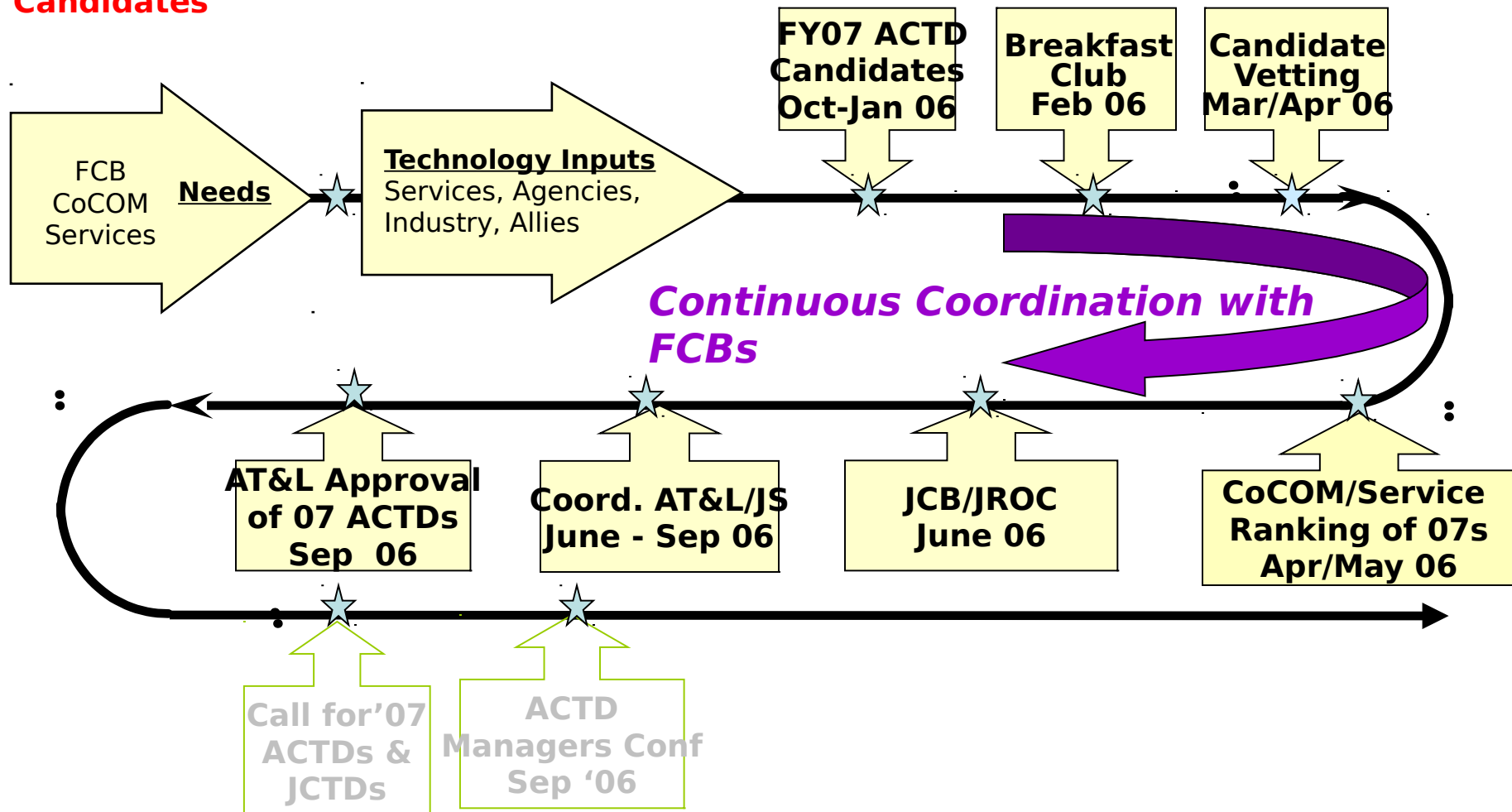
- ***Develop CONOPS/Op Requirements employing ACTD technologies***
- ***Contribute technical elements into existing/new programs***

Informal Failure Indicators

- ***Overlook technologies to solve known military problems***
- ***Allow spiraling technologies/requirements to postpone transitions***
- ***Pursuing low risk technologies to ensure successful demonstrations***
- ***Focus on popular single-service ACTDs at expense of tough joint efforts***

ACTD/JCTD Program Timeline

FY06 Selection Process to select the FY07 Candidates



Typical Reasons Why Candidates Don't Make Final Candidate List

- Inadequate Support from User Community
- Incomplete Plan
- Technology Development versus Demonstration
- Does not Support Joint/Coalition Warfighter Needs
- Service Unique
- Conflicts with Existing Program
- Combined with Existing Program
- Withdrawn by Submitter

ACTD Candidate Development Process

Pre Breakfast Club

- CoComs, Service And FCBs: Operational Needs
 - Propose Actionable Capabilities For Demonstrations; Nominate Specific Proposals
 - Specify Capability Shortfalls & Risk Mitigation Areas For ACTD Development
 - Consult With AS&C On Fidelity Of Developmental ACTDs To Operational Needs
- AT&L/AS&C: Technical/Acquisition/Funding Solutions
 - Develop Viable Demonstration Vehicles To Address Operational Needs

Breakfast Club

- Primary Purpose: Feedback “Need, Deconfliction, and Executability” To DUSD (AS&C)

Prior To Final Preparation

- **Operational** - Introduction To CoCom Community; Verify Need, Operational Deconflictio

- **Technical** - TRL Confirmation; Service/Agency Development Deconfliction

- **Cost/Funding** - Proposed Demonstration Partnerships

- **Transition** - Proposed Transition Route

- All CoComs (S&T And Op Requirements), FCBs, Services And Agencies Represented
- Executive Session Discussion And Assessment

Post Breakfast Club Candidate Finalization & Selection

- Focused Preparation of Proposals Emerging from Breakfast Club

Project Selection

- Approval requires funding commitments (PEs, DINK)
- Managers/organizations committed (OM, TM, XM)
- Demonstration and Assessment Plan
- Transition Strategy
- Schedule [think spirals]
- Cost – Scope framework
- Resource Plan/Schedule

Team

- Oversight Executive (OE) assigned with incoming proposal
- OE is not the project manager
- Technical Mgr (TM) similar to project manager, but...
- Operational Mgr (OM) is the customer and determines military utility.
 - Independent Operational Assessor works for OM
- Transition Mgr works for planned program of record
- IPTs: typically include technical, assessment, integration, transition

Expectations of OEs

- Customer # 1 The Warfighter
 - Capability To The Warfighter
 - Sustainment Of Warfighting Capability
 - Knowing When To Stop
 - Metrics
 - Establishing Needs
 - Identifying Technology
 - Managing Your Programs
 - Assisting Others (E.G. Dating Service)

Oversight Executive Core Duties

- **#1 - Effectively Manage your A/JCTDs... make it happen as intended!**
 - **Structure & Quality of the Program Plan**
 - **Key Stakeholders committed with relevant goals - measurable & balanced**
- **Common Program Status Reporting - Stakeholders.... KIMS**
- **Periodic Program Reviews - Cost, Schedule, Performance & Risk**
- **Provide top-cover & help for TM/OM/XM**
- **Ensure program remains focused on original Joint Warfighting problem**
- **Identify Shortfalls - Sponsor Unfunded Requests and Enhancements (UFRETS Program) - Coordinate with Services/CoComs**
- **Lead Oversight Groups as needed to tackle Major Issues**
- **Assist XM on Transition - 'Skinning Process'**
- **Assist TM on ID & Mgmt Plan Formulation & Coordination**
- **Assist OM on Operational Demo - Joint Exercises**
 - **ADUSD(JCOS) has Joint Staff Exercise Schedule - Use it!**
- **New Candidates Pre-Brief to Portfolio Leads**

Oversight Executive Core Duties (cont.)

- Brief Portfolio Leads on A/JCTD Issues prior to elevating
- Get the MUA to the CoCom & FCB Leads for Transition
- 'Tell the story' – Take the warfighter with you!
- Get Senior Leader Testimonials & Pictures – Linn & Beacham POCs
- Know the technology base & industry – what/where are the leverage points! If necessary, work the workarounds... get well plans!
- Know the customer base – work across CoComs and FCBs but keep the Leads informed
- Identify Coalition Opportunities – Work with ADUSD(JCOS) to avoid surprises
- Update your Annual Taskers when Requested on the Shared Drive – Hunter / Beacham POCs... they have made it less painful!
- Respond to Front Office taskers in a rapid manner! Especially on travel!

Operational Manager (OM)

- Co-Develop Implementation Directive, Management Plan
- Manage, provide input on daily joint warfighter involvement
- Coordinate Components and other CoCOMs involvement
- Plan, schedule, execute operational demonstrations and exercises
- Develop joint CONOPS / TTPs with user participation
- Jointly develop DOTMLPF Recommendations
- Plan and conduct Joint / Coalition Military Utility Assessment (J/CMUA)
- Participate and contribute to transition planning
- Continue to support ACTD during Extended User Evaluation

Technical Manager (TM)

- Provide day to day technical direction
- Co-Develop Implementation Directive and Management Plan
Develop and integrate the concept and applicable technologies
- Manage ACTD contract(s) / acquisition instruments
- Lead management of cost, performance, schedule and risk
- Deliver the advanced concept to the Operational Manager for demonstration, exercises and assessment
- Participate / contribute to the Military Utility Assessment planning
- Participate and contribute to the CONOP / TTP development
- Manage advanced concept configuration
- Participate and contribute to transition planning
- Develop Training Plan
- Contribute to development of DOTMLPF Recommendations
- Continue to support ACTD during Extended User Evaluation

Transition Manager

(XM)

- Co-Develop Implementation Directive, Management Plan
- Create and implement the Transition Plan Appendix to MP
- Plan for and support possible Extend User Evaluation
- Lead the Transition IPT
- Participate and contribute to the J/CMUA planning
- Participate and contribute to the CONOPS / TTP development
- Identify / facilitate funding for transition / residual support
- Lead required document development (ICD, CDD, CPD)
- Lead Budget and POM development for transition to acquisition and facilitate with Services / Agencies

ACTD Process

Candidate Submission

- from anyone

Staff Review:

- Technical feasibility
- Grouping & consolidation

Breakfast Club Review:

- Deconfliction with Service efforts
- Technical solution review

CoCom/Service Prioritization:

JROC Validation:

- Mission need validation
- Prioritization of candidates

Approval

Implementation
Directive

Management Plan

Transition Plan

Military Utility
Assessment

Final Report

Getting Started

- Source of funds to maintain project ops while waiting for funding flows.
- Begin drafting implementation directive (ID) when approval looks likely
- ID signed by the time the new \$ are ready (January)
- Project kick-off meeting: players, routine telecons, event planning
- Requirements document
- Demonstration plan
- RFI/contracting
- Funding management: who distributes, MIPR/Sub-allocation, etc

Assessment

- Find an independent operational test & assessment organization.
 - Typically: AFOTEC, OPTEVFOR, ATEC, JH-APL, JITC.
 - Specialized: e.g. medical, air mobility command
 - Get tester involved early
- Joint Info Ops Center thru AS&C
- Limited/interim utility assessments
- Exercises and operational demonstrations
- Capstone MUA by assessor and approved by sponsor
- Extended User Evaluation

Milestones

- Pressure will start early on ID and MP
- Oversight Group: significant change or at least annual
- Annual ACTD Manager's conference in September
- Sponsoring CoCom will want periodic updates and may brief at annual conference.
- Lead Service/agency reps will want to track
- Report planned demonstration events and invite
- Look for demo opportunities
- Look for spiral fielding opportunities

The ACTD Experience

Where have ACTDs excelled?

- ***Showcasing innovative technical & TTP solutions***
- ***Nurturing concepts without established communities of interest***
- ***Anticipating requirements driven by unfolding events***
- ***Addressing emergent critical technology needs & opportunities***
- ***Embracing CoCom joint and coalition warfare needs***
- ***Highlighting limitations of Service-centric PPBES process***
- ***Forging Service/Agency partnerships to address joint needs***

Where have ACTDs stumbled?

- ***Slow starts: Service-delayed IDs/MPs postponing project starts***
- ***Assured funding sources other than breaking Service programs***

ACTD Roles in Tech Transition

- **Promote joint requirements lacking service “critical mass”**
- **Demonstrate military utility to system-centric Military communities**
- **Mitigate risk**
 - *Try before buy...80% solution polished by demonstrations in the field*
- **Provide rapid prototypes of leap-ahead technologies**
 - *Accelerate transition by testing technical solutions & concept*
- **Introduce warfighters to hands-on, mature technologies**
 - *Spur concurrent development of CONOPS & system requirements*
 - *Overcome institutional reluctance to embrace new concepts*

ACTD Possible Outcomes

- **Transition of an on going DoD program through the DoD acquisition process at the earliest possible outcome**
- **Transition/evolution to a new DoD program (started as a result of the ACTD)**
- **Utilization of ACTD residuals in joint operational environments**
- **Termination of the ACTD, in progress, to return to science & technology organizations for further research and/or development**
- **Termination with no further action (saving follow on developmental or acquisition costs)**
- **Cooperative production with governmental industrial partners for production as a governmental off the shelf (GOTS) product**
- **Cooperative agreement with commercial industrial partners for production of a commercial off the shelf product**

Transition

- Strategy needs to appear in proposal brief and ID
- Mgt Plan needs either a “Transition Strategy” section or eventually an addendum of the “Transition Plan”
- Transition Plan needs appropriate signatures
- Transition Mgr (XM) responsible for the above.
- Transition:
 - Little “t” with prototypes or residuals in hands of users in a real-world operational environment
 - Big “T” involves institutionalization, broad

Transition, continued

- XM responsible for management of acquisition planning and funding commitments for using community, esp. for big “T”
- Integration into global systems, e.g. GCCS need spiral insertion plan and final transition commitment
- “Tool Bag” ACTDs provide assessment information and contracting opportunities. E.g. MOUT, HICIST, EUAV
- Get a POM line, even if it initially is below a cut line.
- As preliminary assessments start coming in, push to get above the POM cut line.

ACTD Transition Defined

- **Transition includes the incorporation of complete weapon systems; including individual technologies; software; doctrine; concepts of operations; tactics, techniques and procedures as well as training/sustainability and documentation from an ACTD into an existing acquisition program or development of a new acquisition program to support new or current operational needs**
- **The documentation developed during an ACTD should be sufficient to support and facilitate the elements of transition noted above and should provide adequate justification as to why a specific system or components of an ACTD should either be recommended for transition, returned to the technology base for further development or completely terminated as a DoD sponsored development program**

Factors Affecting Transition: Both Positive and Negative

- **Full and continuous participation of all key players and organizations in planning and management**
- **Consideration of transition issues and objectives from the outset of the project**
- **Adequate and timely funding for transition**
- **Service or user commitment to transition**
- **Maturity of the technology to be demonstrated**
- **Good fit with existing equipment, software and doctrine**
- **Service or agency priority for joint requirements**
- **Stability among key personnel involved in the ACTD management functions**

Reasons Transition Does Not Succeed

- **Money, money, money**
 - **Money needs to be available to support plan for ACTD execution & transition**
 - **However, money without a plan is not a solution**
- **Issues:**
 - **Engagement of service requirements organizations**
 - **S&T/Systems Commands interactions with requirements organizations**
 - **Transition to GCCS**
 - **ACTDs with multiple systems require interaction with multiple requirements and systems commands**
 - **In kind funding in an ACTD weakens commitment to follow on transition**
 - **Need to engage service requirements & organizations at both working and senior levels**
 - **Identification of complementary or duplicative programs and coordination**
 - **ACTD end result documentation needs to clearly lay out results**
 - **No clear venue for continual interaction between Combatant Commanders and Services**

Transition Strategy Focus Areas

- **Upfront Planning**

- **Relation of an ACTD to:**

- Operational requirements documentation (as a supplement or replacement).
 - Development of relevant metrics of ACTD performance and progress
 - Identification of competing programs or technologies
 - Critical military need

- **ACTD execution**

- **Oversight during execution**

- **Feedback to all participants**

- Dissemination of results to key organizations and ACTD sponsors
 - Provide more than anecdotal results

- **ACTD Conclusion. Who should be briefed?**

- **Does the MUA address critical operational issues identified up front?**

- **The above should support development of a draft Operational Requirements Document (Interim Capabilities Document)**

- **Disseminate results to:**

- Military Services
 - Joint Staff/JROC\
 - Combatant Commanders
 - Appropriate OSD offices